

**GUJARAT TECHNOLOGICAL UNIVERSITY**

BE - SEMESTER– III (New) EXAMINATION – WINTER 2019

**Subject Code: 2130403****Date: 3/12/2019****Subject Name: Basic Biochemistry****Time: 02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

	MARKS
<b>Q.1</b> (a) What are polysaccharides? Give example.	<b>03</b>
(b) Compare simple and complex lipids.	<b>04</b>
(c) Draw and explain pathway of glycolysis.	<b>07</b>
<b>Q.2</b> (a) Why amino acids when dissolved in water do become zwitter ions?	<b>03</b>
(b) Explain various non covalent interactions involved in stabilizing protein structure.	<b>04</b>
(c) Explain secondary structure of protein.	<b>07</b>
<b>OR</b>	
(c) Draw a neat diagram of TCA cycle.	<b>07</b>
<b>Q.3</b> (a) Define the terms anabolism and catabolism.	<b>03</b>
(b) Differentiate between DNA and RNA.	<b>04</b>
(c) Explain process of $\beta$ -oxidation of palmitic acid (C16)	<b>07</b>
<b>OR</b>	
<b>Q.3</b> (a) What is role of carnitine in lipid metabolism?	<b>03</b>
(b) Give scientific name of Vitamin A. What happens due to deficiency of Vitamin A?	<b>04</b>
(c) Explain denovo synthesis of purine nucleotide from PRPP.	<b>07</b>
<b>Q.4</b> (a) Give properties of water.	<b>03</b>
(b) What are dietary sources of calcium and iron?	<b>04</b>
(c) Explain urea cycle with proper diagram.	<b>07</b>
<b>OR</b>	
<b>Q.4</b> (a) Explain reaction for conversion of pyruvate to acetyl Co A	<b>03</b>
(b) Explain structure of lactose molecule.	<b>04</b>
(c) Explain pentose phosphate pathway and its significance.	<b>07</b>
<b>Q.5</b> (a) What is transamination?	<b>03</b>
(b) Draw neat diagram of Watson and Crick model of DNA.	<b>04</b>
(c) What are nitrogen bases? Classify and give their types.	<b>07</b>
<b>OR</b>	
<b>Q.5</b> (a) What are glycoconjugates?	<b>03</b>
(b) Draw neat diagram of a tripeptide chain.	<b>04</b>
(c) What are weak acids and weak bases? Explain with example.	<b>07</b>

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